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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,456	05/27/2005	Nicolas Sarrut	123883	3380
25944 7590 11/28/2008 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
NOGUEROLA, ALEXANDER STEPHAN				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
11/28/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/534,456

**Applicant(s)**

SARRUT, NICOLAS

**Examiner**

ALEX NOGUEROLA

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4 and 81 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

***Status of the Rejections pending since the Office action of August 11, 2008***

1. All previous rejections are withdrawn.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 8, 10, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by newly cited Le Pesant US 4,636,785.

Addressing claim 8, Le Pesant discloses a micro fluidic device (Figure 3 and col. 05:23-26) comprising at least one microchannel (bounded by the end spacers (9)) designed to contain at least one liquid and at least one fluid non-miscible with the liquid (col.05:26-30) and means for stabilizing the interface between the liquid and the fluid (electrodes 5, 6, 10, 11), said microchannel being bounded by a bottom wall (2), side

walls (9) and a top wall (1), microfluidic device wherein the means for stabilizing comprises at least one electrode (5, 11) arranged on only one part of a first wall of the microchannel, over the entire length thereof (Figure 3), and at least one counter-electrode (6, 10) arranged over the entire length of the microchannel, on at least one part of a second wall arranged facing the electrode (Figure 3), wherein the microchannel includes at least two zones, respectively designed to contain the at least one liquid and the at least one fluid non-miscible with the liquid, at least one of the two zones is formed by a space corresponding to the width of the at least one electrode arranged on only one part of the first wall (Figure 3 and col. 05:34-39).

Addressing claim 10, for the additional limitation of this claim see Figure 3.

Addressing claim 13, as the liquid flows from a first end of the micorchannel to the second it will necessarily displace the fluid, since they are immiscible, in the opposite direction towards the first end.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Le Pesant US 4,636,785.

Le Pesant discloses a micro fluidic device (Figure 3 and col. 05:23-26) comprising at least one microchannel (bounded by the end spacers (9)) designed to contain at least one liquid and at least one fluid non-miscible with the liquid (col.05:26-30) and means for stabilizing the interface between the liquid and the fluid (electrodes 5, 6, 10, 11), said microchannel being bounded by a bottom wall (2), side walls (9) and a top wall (1), microfluidic device wherein the means for stabilizing comprises at least one electrode (6, 10) arranged on only one part of a first wall of the microchannel, over the entire length thereof (Figure 3), and at least one counter-electrode (5, 11) arranged over the entire length of the microchannel, on at least one part of a second wall arranged facing the electrode (Figure 3), wherein the microchannel includes at least two zones, respectively designed to contain the at least one liquid and the at least one fluid non-miscible with the liquid, at least one of the two zones is formed by a space corresponding to the width of the at least one electrode arranged on only one part of the first wall (Figure 3 and col. 05:34-39).

Although Figure 3 shows the electrode and counter-electrode respectively arranged on the bottom and top wall, to have the electrode and counter-electrode arranged on the side walls would merely require placing the microfluidic device on an end, which would not affect the operation of the device. Indeed, Le Pesant discloses that the device can operate on all positions. See col. 01:49-64.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 8-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) In line four of claim 8 it is not clear why "microfluidic device" is present. Is this a different microfluidic device than the one in the preamble? If not, the Examiner suggests replacing "wall, microfluidic device wherein" with -- wall; wherein --.

b) Claim 13 is incomplete as it is missing a period.

8. Note that dependent claims will have the deficiencies of base and intervening claims.

***Claim Objections***

9. Claim 8 is objected to because of the following informality: in line five "comprise" should be -- comprises -- . Appropriate correction is required.

***Allowable Subject Matter***

10. Claims 9, 12, and 14 would be allowable if rewritten to overcome the rejection under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

a) Claim 9 requires the counter-electrode to be arranged on the whole of the second wall. This is not possible in Le Pesant as two counter-electrodes (6, 10) are located on the second wall (Figure 3).

b) Claim 12 requires the fluid or liquid to be electrically conducting, and the microfluidic device comprises insulating means arranged between the electrode or counter-electrode and the fluid or liquid. In Le Pesant the fluid is air and the liquid is one of several non-conducting organic solvents. See col. 05:26-30. Also, the electrodes and counter-electrodes are in direct contact with the fluid or liquid.

c) Claim 14 requires the microchannel to comprise at one end, two end microchannels designed for the fluid and the liquid to respectively flow therethrough. In Le Pesant the ends of the microchannel are sealed. See Figure 3.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX NOGUEROLA whose telephone number is (571) 272-1343. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NAM NGUYEN can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Alex Nogueroles/  
Primary Examiner, Art Unit 1795  
November 25, 2008